



# Illinois Department of Transportation

## Memorandum

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To: DIRECTORS, DEPUTY DIRECTORS, AND BUREAU CHIEFS  
From: Dianna L. Taylor  
Bureau Chief of Personnel Management  
Subject: Technical Vacancy  
Date: September 23, 2015

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Attached are the Position Summary Sheet and Position Description for the vacant technical position listed below. Please post this vacancy announcement September 24, 2015 in the designated areas.

The deadline for applicants to submit their names for consideration is **4:30 p.m.** on **Wednesday, October 7, 2015**. Applicants will not be accepted after that time and date.

**NOTE: A copy of each applicant's ACTIVE Illinois Professional Engineer License must accompany application for this position.**

All applicants will receive a position description for the position they are applying for. If you have any questions, please contact Halie Zulauf or Denise Hamilton at 217/782-5594.

CE IV

Surface Properties Engineer  
Materials & Physical Research  
Highways  
Springfield

Attachments  
40471

Technical Applications (PM 1080) **must be received** by the Bureau of Personnel Management, Room 113, 2300 South Dirksen Parkway, Springfield, IL 62764 (Fax# 217/557-3134) by **Wednesday, October 7, 2015, 4:30 p.m.** Please include address, daytime phone and position for which applying if not already listed on application. Applicants will be notified in writing to schedule interviews.

**NOTE: A copy of each applicant's ACTIVE Illinois Professional Engineer License must accompany application for this position.**



**Illinois Department  
of Transportation**

An Equal Opportunity Employer

## Position Summary Sheet

**Classification:** Civil Engineer IV

**Salary Range:** \$5,800 - \$9,230

**Position Title:** Surface Properties Engineer

**Union Position:** ☒ Yes ☐ No

**Position Number:** PW114-23-50-703-52-01

**IPR#:** 40471

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### Office/Central Bureau/District/Work Address:

Division of Highways/Bureau of Materials & Physical Research/126 E. Ash St., Springfield, IL

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### Description Of Duties:

This position is accountable for directing, planning and conducting evaluations of pavement surface smoothness and frictional characteristics and for recommending rehabilitation techniques to improve riding quality and reduce wet pavement crashes.

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### Special Qualifications:

#### *The following criteria is required:*

- A current Illinois Professional Engineer license
- A valid driver's license
- Occasional in-state travel and limited out-of-state travel

#### *The following criteria is desired:*

- Six years' experience in civil engineering including four years of supervisory responsibility of which three years should be in civil/transportation engineering or related field
- A minimum of one semester of Pavement Design Theory
- Strong oral and written communication skills
- Good organizational, leadership and self-motivational skills and the ability to maintain cooperative relationships

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### Shift/Remarks:

8:00 am - 4:30 pm / Monday - Friday

**ILLINOIS DEPARTMENT OF TRANSPORTATION  
POSITION DESCRIPTION**

<b>DATE:</b>	November, 2014	<b>POSITION:</b>	Surface Properties Engineer
<b>APPROVED BY:</b>	<u>Laura Mlacnik</u>	<b>OFFICE/DIVISION:</b>	Division of Highways/Bureau of Materials and Physical Research
<b>CODE:</b>	PW114-23-50-703-52-01	<b>REPORTS TO:</b>	Engineer of Pavement Technology

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***Position Purpose***

This position is accountable for directing, planning and conducting evaluations of pavement surface smoothness and frictional characteristics and for recommending rehabilitation techniques to improve riding quality and reduce wet-pavement crashes.

***Dimensions***

Personnel Supervised:	1-5 Direct
Programs:	10-25 Site Evaluations
	300-1000 Friction Tests Annually
	10,000 – 12,000 Miles Ride Quality Data Annually

***Nature and Scope***

This position reports to the Engineer of Pavement Technology. Reporting to this position are the Surface Properties Investigations Engineer(s), Pavement Investigations Engineer, Research Engineer and Research Engineer Trainee.

Information developed by this position often reduces vehicular accidents, alters roadway material specifications, affects State liability matters and supports IDOT pavements management activities. The incumbent plans, organizes, and directs formal research studies and special investigations related to surface properties of a pavement system. Surface properties include friction, ride quality, distress, serviceability and surface drainage characteristics. The incumbent annually evaluates Illinois' Skid-Accident Reduction Program, develops specifications for improved skid-resistant surfaces, evaluates sites with unique frictional problems and develops recommendations for solutions. The position annually evaluates the riding quality of newly constructed pavements and roadway surfaces with unique problems and develops recommendations for solutions and develops standard specifications to improve riding quality. The position is unique in that it is the Department's expert on technical evaluations of pavement friction and riding quality problems and is the source for recommendations for improvements.

The incumbent supplies the engineering expertise required to solve problems unique to pavement friction, condition and riding quality characteristics. A typical problem for the incumbent would be to evaluate pavement rehabilitation policies and design standards on the frictional and rideability characteristic of pavement and propose recommendations for changes in operating policies and procedures. The greatest challenge to the position is to generate and distribute accurate research analyses and recommendations in a format to ensure continual improvement in the Department's evolving Wet-Pavement Crash Reduction Program and pavement management activities, and to improve safety, pavement performance and riding comfort of the roadway system.

The incumbent personally plans, directs and conducts special investigations, prepares highly technical written reports, prepares and reviews detailed work plans, reviews and edits research reports, prepares and reviews

material specifications and design changes, and make recommendations to the Standing Committee on Pavement Management. The incumbent must have an understanding of Hot-Mix Asphalt and Portland Cement Concrete mixture design, aggregates and texturing. The incumbent consults with district and central bureau project engineers on pavement design, construction, maintenance, traffic and crash problems relative to pavement surface properties, gives expert advice on technical roadway evaluation equipment and make recommendations for purchase and/or development to upper level management. S/He periodically prepares and distributes a written detailed evaluation of IDOT's Wet-Pavement Crash Reduction Program.

The incumbent accountabilities are accomplished through the following staff:

Surface Properties Investigations Engineers, who conduct research studies related to the surface properties of pavement systems to enhance the riding and friction qualities of the pavement surface.

Pavement Investigations Engineer, who monitors surface properties of pavements; reports data to the incumbent's supervisor; and analyzes reports of research conducted by outside agencies.

Research Engineer, who conducts and reports results of pavement performance investigations and reviews reports of pavement performance research conducted by other agencies.

Research Engineer Trainee, who assist in the development of detailed work plans for field surveys/testing for special investigations; collects, analyzes and summarizes data; and assists in the review of research reports from other agencies.

The incumbent has broad freedom to operate and is given wide latitude in the planning and accomplishment of assigned work. S/He plans, organizes and supervises the work of the staff, evaluates progress and results obtained and recommends changes to achieve objectives. S/He consults with the Engineer of Pavement Technology to resolve complex issues, to determine appropriate action on controversial problems and to resolve serious research scheduling conflicts. The incumbent makes recommendations concerning salary adjustments and complicated personnel matters, and recommends purchase of capital equipment items and supplies necessary to obtain valid research results.

The incumbent has regular contact within the Districts, Central Bureaus, the Office of Planning and Programming, the Division of Traffic Safety and FHWA at various professional levels on matters concerning the analysis of research results, surface property problems and research needs to provide recommended solutions. Occasionally, the incumbent has contact with other states and engineering universities to discuss mutual problems, exchanges research information and gain knowledge about the effectiveness of potential solutions under consideration. Occasional travel is required throughout the State to observe experimental and problem sites and to coordinate field work on experimental installations. Limited out-of-state travel is required to participate in workshops, seminars and conferences.

The effectiveness of this position is measured by the success of recommended solutions to unique pavement problems, by the value of information provided for pavement management activities, and by the success of the Department's Wet-Pavement Crash Reduction Program.

**Principal Accountabilities:**

1. Evaluate and monitor riding quality and frictional characteristics such that those properties of the IDOT highway network are maintained at a satisfactory safety and rideability level.
2. Investigates immediate problems associated with pavement surface smoothness and/or frictional characteristics to determine the causes and recommend corrective action.

3. Plan and direct research studies aimed at improving riding quality or frictional characteristics of Hot-Mix Asphalt and Portland Cement Concrete pavements.
4. Prepare technical papers detailing annual activities in evaluating riding quality and/or frictional characteristics of newly constructed pavement.
5. Develop testing requirements to support the pavement management needs of IDOT in regards to surface properties.
6. Train, motivate and evaluate subordinate personnel to ensure efficient operations.
7. Travel on an as-needed basis to perform the duties of this position.
8. Perform duties in compliance with Departmental safety rules. Perform all duties in a manner conducive to the fair and equitable treatment of all employees.
9. Performs other duties as assigned.